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EXAMINER

SERGEANT, RABON A

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* DIDIER ARNOUX, CRISPIN FRANK MAXWELL JONES and  
RONALD OWEN ROSENBURG

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Appeal 2008-0983  
Application 09/868,289  
Technology Center 1700

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Decided: June 24, 2008

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Before BRADLEY GARRIS, CHUNG K. PAK, and JEFFREY T. SMITH,  
*Administrative Patent Judges.*

PAK, *Administrative Patent Judge.*

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 20 through 26, 28, 30 through 41, and 43 through 50, all of the claims pending in the above-identified application. We have jurisdiction pursuant to 35 U.S.C. § 6.

We AFFIRM.

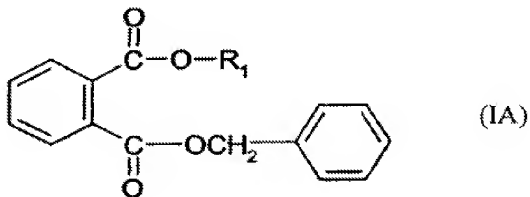
*STATEMENT OF THE CASE*

The subject matter on appeal is directed to “a poly urethane/urea-forming casting composition” capable of being cured at room temperature and a process for casting the same (Spec. 1 and claim 20). The composition is said to contain isocyanate-functional prepolymers, an aromatic amine curative, a non-volatile phosphate or phthalate plasticizer (Spec. 1). Further details of the appealed subject matter are recited in representative claims 20, 33, and 49 reproduced below:

20. A poly urethane/urea-forming casting composition, which is capable of being cast and cured at temperatures between 15 and 35°C, comprising:

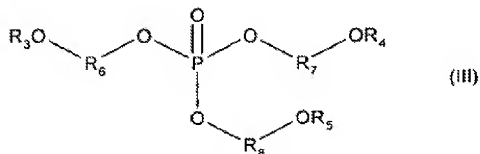
- (a) an isocyanate component or an isocyanate functional prepolymer having at least two isocyanate groups per molecule that contains or has been reacted with polytetramethylene glycol;
- (b) an aromatic amine curative; and
- (c) a phosphate ester or phthalate ester having a vapor pressure of less than 100 mPa at 25°C;

wherein said phthalate ester is monomer according to formula IA



in which R<sub>1</sub> is unsubstituted or alkyl-substituted C<sub>3</sub>-C<sub>12</sub> alkyl; and wherein

said phosphate ester isodecyl diphenyl phosphate; or wherein said phosphate ester is a monomer according to formula III



in which R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub>, independently from one another, are unsubstituted or alkyl substituted C<sub>1</sub>-C<sub>5</sub> alkyl, and R<sub>6</sub>, R<sub>7</sub>, and R<sub>8</sub>, independently from one another, are unsubstituted or alkyl substituted C<sub>1</sub>-C<sub>5</sub> alkylene.

33. A process for preparing a polyurethane casting, comprising the following steps:

contacting:

(a) an isocyanate component or an isocyanate functional prepolymer having at least two isocyanate groups per molecule that contains or has been reacted with polytetramethylene glycol, with

(b) an aromatic amine curative having at least two primary amine groups, and

(c) a plasticizing agent having a vapor pressure of less than 100 mPa at 25°C and/or an evaporation rate of less than 40% after 24 hours at 87°C according to ASTM 1203-67;

pouring the combination of (a), (b) and (c) into a mold; and curing;

wherein the foregoing steps are all carried out at ambient conditions.

49. A cast polyurethane article obtained by a process according to claim 33.

As evidence of unpatentability of the appealed subject matter, the Examiner has proffered the following prior art references:

Singh	US 5,077,371	Dec. 31, 1991
Gabbard	US 5,232,956	Aug. 3, 1993
Peter	US 5,990,258	Nov. 23, 1999
Sanyo	JP Hei 6-16767 <sup>1</sup>	Jan. 25, 1994

The Examiner has rejected the claims on appeal as follows:

1) Claims 33 through 41 and 43 through 50 under 35 U.S.C. § 112, first paragraph, as failing to provide written descriptive support for the invention presently claimed;

2) Claim 49 under 35 U.S.C. § 102(b) as anticipated by the disclosure of Sanyo;

3) Claims 33 through 36, 39, 41, 43, and 45 under 35 U.S.C. § 103(a) as unpatentable over the disclosure of Sanyo; and

4) Claims 20 through 26, 28, 30 through 32, 37, 38, 40, 44, 46 through 48, and 50 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Sanyo, Singh, Peter, and Gabbard.

Appellants appeal from the Examiner's decision rejecting the claims on appeal under 35 U.S.C. §§ 112, 102(b) and 103(a).

*RELEVANT FACTUAL FINDINGS, PRINCIPLES OF LAW,  
ISSUES, AND ANALYSES*

*A. REJECTION UNDER 35 U.S.C. § 112, FIRST PARAGRAPH*

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<sup>1</sup> Our reference to this Japanese laid-open patent application is to the corresponding English translation of record.

As stated by our reviewing court in *In re Kaslow*, 707 F.2d 1366, 1375 (Fed. Cir. 1983):

The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, rather than the presence of absence of literal support in the specification for the claim language. ...

The written description requirement of the first paragraph of 35 U.S.C. § 112 may be satisfied if there is support in the original application disclosure for the concept of what is later claimed. *In re Anderson*, 471 F.2d 1237, 1244 (CCPA 1973).

Here, the Examiner contends that the application disclosure, as originally filed, does not reasonably convey to the artisan that the inventors had possession of the concept of employing ambient conditions in the polyurethane casting process recited in claims 33 through 41 and 43 through 50 (Ans.<sup>2</sup> 3). In particular, the Examiner asserts that the Specification Examples employ ambient conditions only in the context of casting specific polyurethane compositions, not all the polyurethane compositions covered by claims 33 and 50 (*id*). Appellants argue that the Examiner has not demonstrated that the application disclosure, as originally filed, would not have reasonably conveyed to the artisan that the inventors had possession of the subject matter recited in claims 33 through 41 and 43 through 50 (Br<sup>3</sup>. 11).

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<sup>2</sup> The Examiner's Answer dated May 25, 2007.

<sup>3</sup> The Appeal Brief filed November 2, 2006.

The dispositive question is, therefore, whether the Examiner has demonstrated that the application disclosure as a whole would not have reasonably conveyed to one of ordinary skill in the art that the inventors had possession, at the time of its filing, of the concept of carrying out the polyurethane casting process recited in claims 33 through 41 and 43 through 50 at ambient conditions within the meaning of 35 U.S.C. § 112, first paragraph. On this record, we answer this question in the negative.

As correctly pointed out by Appellants, Examples 1 through 3 in the Specification, as originally filed, show conducting polyurethane casting processes at ambient conditions (Br. 11). These original Examples show employing ambient conditions for combining specific polyurethane ingredients and for placing and curing the resulting mixture in a mold (Spec. 13-14). Although the original Examples are limited to employing specific ingredients, the original Specification, as a whole, indicates that these exemplified casting processes are equally applicable to the other ingredients not exemplified, but recited in claims 33 through 41 and 43 through 50. Specifically, the Specification, as originally filed, describes the exemplified specific ingredients as being equivalent to the ingredients recited in claims 33 through 41 and 43 through 50 (Spec. 3-13). Moreover, consistent with the original Examples, the Specification, as originally filed, broadly states that “[t]his invention relates to casting polyurethane and/or polyurethane/urea-forming products capable of room temperature curing” (Spec. 1). Thus, the Examiner’s position to the contrary notwithstanding, we concur with Appellants that the Examiner has failed to demonstrate that the application disclosure as a whole would not have reasonably conveyed to the

artisan that the inventors had possession, as of its filing date, of the subject matter recited in claims 33 through 41 and 43 through 50 within the meaning of 35 U.S.C. § 112, first paragraph.

Accordingly, we reverse the Examiner's decision rejecting claims 33 through 41 and 43 through 50 under 35 U.S.C. § 112, first paragraph.

*B. REJECTION UNDER § 102(b)*

As held by the predecessor to our reviewing court in *In re Brown*, 459 F.2d 531, 535 (CCPA 1972):

[W]hen the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtains prior art products and makes physical comparisons therewith.

“[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production.” *In re Thorpe*, 777 F.2d 695, 697 (Fed. Cir. 1985) (citations omitted).

Here, Appellants do not question the Examiner's finding that Sanyo discloses a cast polyurethane article identical to that recited in product-by-process claim 49 Compare Ans. 4-5, with Br. 12-13. Appellants only argue about the Examiner's refusal to enter an amendment containing, *inter alia*, cancellation of claim 49 (Br. 12-13).<sup>4</sup> Accordingly, we summarily affirm

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<sup>4</sup> Appellants' concurrently filed petition to enter the amendment pursuant to 37 C.F.R. § 1.181 was denied. See Petition Decision dated July 18, 2006.



the Examiner's decision rejecting claim 49 under 35 U.S.C. § 102(b) as anticipated by the disclosure of Sanyo.

*C. REJECTIONS UNDER § 103*

Under 35 U.S.C. § 103, the factual inquiry into obviousness requires a determination of: (1) the scope and content of the prior art; (2) the differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). “[A]nalysis [of whether the subject matter of a claim would have been obvious] need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int'l Co., v. Teleflex, Inc.*, 127 S. Ct. 1727, 1740-41 (2007); *see also DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1361 (Fed. Cir. 2006).

*1. Claims 33 through 36, 39, 41, 43, and 45 under 35 U.S.C. §103 as unpatentable over the disclosure of Sanyo*

Appellants have not challenged the Examiner's determinations at pages 5 and 6 of the Answer that:

[Sanyo] discloses a polyurethane composition comprising the reaction of a prepolymer, derived from toluene diisocyanate and polytetramethylene glycol, with DETDA, in the presence of phthalate or phosphate plasticizers, such as dioctyl phthalate, octyldiphenyl phosphate (considered to encompass appellants' claimed ethylhexyl diphenyl phosphate, for the reasons given above), and triphenyl phosphate. ( *See* pages 1-5 and 7 of the translation).

Appellants' instant process claims differ primarily from the [Sanyo] reference in that the [Sanyo] reference is concerned with the use of a RIM process that operates at conditions outside of the ambient conditions of claim 33; however, it is noted that the [Sanyo] reference discloses that prior art processes included casting methods, considered to be comparable to the instant method. See paragraph [0002]...one of ordinary skill in the art unconcerned with using a RIM technique would have found it obvious to produce the disclosed elastomers in accordance with the disclosed prior art process of polyurethane casting. Furthermore, since casting methods proceed more slowly than RIM methods, casting methods require conditions compatible with the attendant slower rate of mixing and reaction of the casting method. One of ordinary skill in the polyurethane art would have fully appreciated this and would have been motivated to reduce the temperature and pressure conditions from those disclosed for the RIM technique so as to decrease the rate of reaction and cure. Accordingly, it would have been obvious to conduct the casting method at ambient conditions.

*(Compare Ans. 5-6, with, Br. 13-14).*

Appellants only argue the propriety of the Examiner's refusal to enter the amendment discussed above (Br. 13-14).

Under these circumstances, we determine that the preponderance of evidence weighs most heavily in favor of obviousness of the subject matter recited in claims 33 through 36, 39, 41, 43, and 45 within the meaning of 35 U.S.C. § 103(a). Accordingly, we affirm the Examiner's decision rejecting claims 33 through 36, 39, 41, 43, and 45 under 35 U.S.C. § 103(a) as unpatentable over the disclosure of Sanyo.

*2. Claims 20 through 26, 28, 30 through 32, 37, 38, 40, 44, 46 through 48, and 50 under 35 U.S.C. §103 as unpatentable over the combined disclosures of Sanyo, Singh, Peter, and Gabbard<sup>5</sup>*

Appellants do not dispute the Examiner's finding that Sanyo teaches a polyurethane based elastomer forming composition comprising a prepolymer derived from toluene diisocyanate and polytetramethylene glycol, an aromatic diamine, and conventional phthalate or phosphate plasticizers. (*Compare* Ans. 6 with Br. 14-15).

Appellants only contend that the prior art applied would not have led one of ordinary skill in the art to employ the claimed aromatic diamine curative and phthalate or phosphate plasticizer. The dispositive question is, therefore, whether the prior art applied would have led one of ordinary in the art to employ the claimed aromatic diamine curative and phthalate or phosphate plasticizer within the meaning of 35 U.S.C. § 103(a). On this record, we answer this question in the affirmative.

As is apparent from Sanyo, its conventional phosphate and phthalate plasticizers includes octyldiphenyl phosphate and diheptylphthalate, those phthalates and phosphates plasticizers having claimed vapor pressure encompassed by the formula recited in claim 20. (*Compare* Sanyo, pages 4 and 5, paras. 0011 and 0014, with Spec. 11). We find that Sanyo also employs DETDA (diethyl toluene diamine) corresponding to the claimed

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<sup>5</sup> Appellants base their arguments for patentability solely on the limitations of claims 20 (Br. 14-18). Therefore, for purposes of this appeal, we decide the propriety of the Examiner's rejections based on claim 20 alone consistent with 37 C.F.R. § 41.37(c)(1)(vii) (2005).

aromatic diamine curative as its aromatic diamine in Example 2. (*Compare* Sanyo, page 8, *with* Spec. 9 *and* claim 23).

Under these circumstances, we concur with the Examiner that the applied prior art would have suggested employing the claimed phosphate and phthalate plasticizers, such as octyldiphenyl phosphate and diheptylphthalate, and the claimed aromatic amine curative, such as diethyl toluene diamine, in the composition of the type taught by Sanyo.<sup>6</sup> *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007) (*quoting Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282 (1976)) (“[W]hen a patent ‘simply arranges old elements with each performing the same function it had been known to perform’ and yields no more than one would expect from such an arrangement, the combination is obvious.”).

In reaching this determination, we note Appellants’ argument directed to their reason for employing the claimed aromatic amine curative and plasticizer (Br. 18). However, “[a]s long as some motivation or suggestion

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<sup>6</sup>. The discussion of Singh, Gabbard, and Peter is unnecessary since they provide teachings cumulative to the teachings already provided in Sanyo. To the extent they are necessary, notwithstanding Appellants’ arguments to the contrary, the Examiner has correctly found that dimethylthiotoluene diamine is a commercially available curative for polyurethane elastomer forming composition (*Compare* Singh, abstract *and* col. 3, ll. 61-68, *with* claim 23) and butyl benzyl phthalate, isodecyl diphenyl phosphate, tributoxyethyl phosphate are conventional phthalate and phosphate plasticizers (*Compare* Gabbard, col. 4, ll. 33-45, Peter, col. 2, ll. 47-57), *with* claims 46-48).

to combine the reference[‘s [disclosures] is provided by the prior art taken as a whole, the law does not require that the reference[‘s [disclosures] be combined for the reasons contemplated by the inventor.” *In re Beattie*, 974 F.2d 1309, 1312 (Fed. Cir. 1992); see also *KSR*, 127 S. Ct. at 1742 (“Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed”).

Consequently, based on the totality of record relied upon by the Examiner and Appellants, including due consideration of Appellants’ arguments and evidence, we determine that the preponderance of evidence weighs most heavily in favor of obviousness of the subject matter recited in claims 20 through 26, 28, 30 through 32, 37, 38, 40, 44, 46 through 48, and 50 within the meaning of 35 U.S.C. § 103(a). Accordingly, we affirm the Examiner’s decision rejecting these claims under 35 U.S.C. § 103(a) as well.

#### *ORDER*

The decision of the Examiner is affirmed.

#### *TIME PERIOD*

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

#### AFFIRMED

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Appeal 2008-0983  
Application 09/868,289

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